

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
23 June 2005 (23.06.2005)

PCT

(10) International Publication Number
WO 2005/057498 A1

(51) International Patent Classification⁷: **G06T 7/60,**
G06K 9/46

Wieslaw, Lucjan [PL/SG]; 111 Clementi Road, NUS
Kent Vale, Block C #10-06, Singapore 129792 (SG). HU,
Qingmao [CN/SG]; 3 Jalan Rajawali #06-03, Singapore
598436 (SG).

(21) International Application Number:
PCT/SG2003/000284

(74) Agent: **WATKIN, Timothy, Lawrence, Harvey;** Lloyd
Wise, Tanjong Pagar P.O. Box 636, Singapore 910816
(SG).

(22) International Filing Date:
12 December 2003 (12.12.2003)

(25) Filing Language: English

(26) Publication Language: English

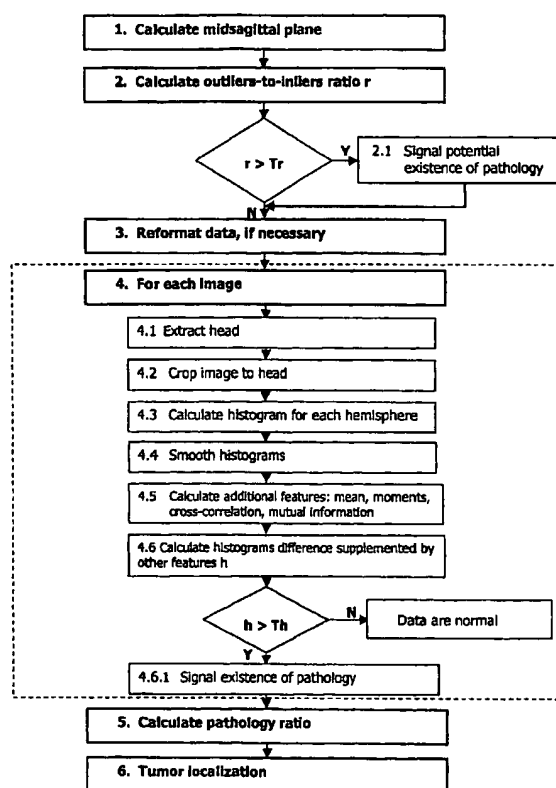
(71) Applicant (for all designated States except US): **AGENCY
FOR SCIENCE, TECHNOLOGY AND RESEARCH**
[SG/SG]; 20 Biopolis Way, #07-01 Centros, Singapore
138668 (SG).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR,
CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,
MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU,
SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR IDENTIFYING PATHOLOGY IN BRAIN IMAGES



(57) Abstract: A method and apparatus for identifying pathology in a brain image comprises the steps of firstly determining the location of the midsagittal plane (MSP) of the brain illustrated in the image under examination by identifying the symmetry of the two hemispheres based on the determination of up to 16 approximated fissure line segments (AFLSs). Those AFLSs with a larger angular deviation from the MSP than a predefined threshold are considered as outlier AFLSs while the rest are taken as inlier AFLSs. The ratio of the number of the outlier AFLSs to the number of inlier AFLSs is then calculated. A comparison of the ratio with a further predetermined threshold value is made and if the ratio exceeds the further predetermined threshold value, pathology is present in the brain image.



European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*